CLAIMS

1. A method comprising:

introducing a predetermined degree of defocus to a beam, said degree of defocus corresponding to a continuous sloped phase edge;

exposing a region of a layer of resist material on a substrate with the beam.

2. The method of claim 1, further comprising:

etching the resist material to produce a feature having a continuous sloped phase edge in the layer of resist material.

3. The method of claim 2, further comprising:

etching the resist material and the substrate to produce a feature having a continuous sloped phase edge in the substrate.

4. The method of claim 3, wherein said etching the resist material and the substrate comprises etching at an approximate 1:1 substrate/resist etch rate.

5. The method of claim 3, wherein the continuous sloped phase edge of the feature comprises a boundary

between said feature and an adjacent feature in the substrate.

6. The method of claim 5, wherein the substrate comprises a phase shift mask adapted to be exposed with light having a wavelength, and

wherein the boundary has a lateral distance approximately on the order of said wavelength.

7. The method of claim 1, wherein said exposing comprises exposing with an electron beam.

8. The method of claim 1, wherein said exposing comprises exposing with an optical beam.

9. The method of claim 1, further comprising:

adjusting the degree of defocus to the beam; and

exposing a different region of the layer of resist material.

10. The method of claim 9, wherein said feature comprises a first feature, and further comprising:

etching the resist material to produce a second feature having a continuous sloped phase edge in the layer

of resist material, wherein the continuous sloped phase edge of the second feature has a different slope than the continuous sloped phase edge of the first feature.

11. The method of claim 10, wherein the second feature is perpendicular to the first feature.

12. A phase shift mask comprising:

a plurality of features;

a plurality of boundaries between adjacent features in said plurality of features, at least a plurality of said boundaries comprising a continuous sloped phase edge.

13. The phase shift mask of claim 12, wherein the phase shift mask is adapted to be exposed with light having a wavelength, and

wherein a plurality of the boundaries have a continuous sloped edge with a first lateral distance, the first lateral distance being approximately on the order of said wavelength.

14. The phase shift mask of claim 13, wherein another plurality of the boundaries have a continuous sloped edge with a second lateral distance.

15. The phase shift mask of claim 14, wherein the continuous sloped edges having the first lateral distance are perpendicular to the continuous sloped edges having the second lateral distance.

16. The phase shift mask of claim 12, wherein the phase shift mask comprises a trimless phase shift mask.

17. A method comprising:

exposing a phase shift mask including a pattern comprising a plurality of features, and a plurality of boundaries between adjacent features in said plurality of features, at least a plurality of said boundaries comprising a continuous sloped phase edge; and

imaging the pattern onto a layer of resist material on a wafer.

18. The method of claim 17, further comprising:

developing the resist material without a second exposure.

19. The method of claim 18, wherein the second exposure comprises a trim mask exposure.

20. The method of claim 17, wherein said exposing comprises exposing with light having a wavelength, and

wherein a plurality of said boundaries have a lateral distance approximately on the order of the wavelength.

21. The method of claim 17, wherein the features comprises phase shift regions, and wherein the boundaries are between adjacent phase shift regions.